Amendments to the Claims

The "Listing of Claims" below will replace all prior versions, and listings of claims in the application:

Listing of Claims

10.   (currently amended)   A method for identifying and quantifying components in an effluent stream from an ammoxidation reactor, comprising:

(A)   advancing a portion of said effluent stream through a sample cell in a Fourier Transform infrared spectrometer;

(B)   scanning said portion in said sample cell with infrared energy at a plurality of infrared wavelengths, wherein each of said components absorbs said infrared energy at one or more of said plurality of selected wavelengths;

(C)   detecting said infrared radiation passing through said sample cell and generating absorbance data for each of said components; and

(D)   quantifying each of said components by comparing said absorbance data to a calibration curve for each component in a microprocessor programmed to quantify each of said components; and

wherein said components comprise acrylonitrile, acetonitrile, propylene, ammonia, hydrogen cyanide, carbon monoxide, carbon dioxide, water, acrolein and acrylic acid.

11.   (original)   A method as in claim 10, further comprising outputting quantitative results for each of said plurality of components.

12.   (original)   A method as in claim 11, wherein said quantitative data is output to a reactor controller communicating with said ammoxidation reactor and said reactor controller is adapted to adjust and control operation of said Ammoxidation reactor based on said quantitative data.

13.   (original)   A method as in claim 10, wherein said reactor controller is controlled by said microprocessor.

14.   (original)   A method as in claim 12, wherein said reactor controller controls one or more of reactor temperature, reactor internal pressure, feed of air, feed of hydrocarbon and feed of ammonia.

15. (original) A method as in claim 10, further comprising displaying data input to and output from said microprocessor.

16. (original) A method as in claim 10, wherein said calibration curve is calculated from calibration data obtained by performing on effluents from said ammoxidation reactor recovery run analyses and calibration analyses in said sample cell, said calibration analyses performed using steps (A), (B) and (C).

(17) (original) A method as in claim 10, wherein said ammoxidation reactor is operated to produce acrylonitrile.